

# University of Pretoria Yearbook 2016

## Design and analysis of experiments 780 (BDE 780)

**Qualification** Postgraduate

**Faculty** [Faculty of Engineering, Built Environment and Information Technology](#)

**Module credits** 16.00

**Programmes** [BEngHons Industrial Engineering](#)

[BScHons Applied Science Applied Science: Industrial Systems](#)

**Prerequisites** No prerequisites.

**Contact time** 24 contact hours

**Language of tuition** English

**Academic organisation** Industrial and Systems Eng

**Period of presentation** Semester 1 or Semester 2

### Module content

The design of an experiment may be defined as 'the logical construction of an experiment in which the degree of uncertainty with which the inferences are drawn may be well defined'. The module deals with the following:

- Principles of experimental design (Randomisation, Replication and Blocking (local control))
- One-Factor-Two-level Factorial Designs
- One-Factor-Multi-level Factorial Designs
  - o Completely Randomised Design (CRD) and introduction to ANOVA
  - o Randomised Complete Block Design (RBD)
  - o Latin Square Design (LSD)
  - o Balanced Incomplete Block Design (BIBD)
- Factorial Experiments (2nd and 3rd factorial experiments)
- Blocking and Confounding in Factorial designs
- Overview of Factorial Designs

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